

ENVIRONMENTAL QUALITY

CHAPTER 8

AIR QUALITY

Sub-Chapter 2

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Sub-Chapter 2

Ambient Air Quality

17.8.201 DEFINITIONS In this subchapter, the following words and phrases shall have the following meanings:

- (1) "Act" means the Montana Clean Air Act.
- (2) "Ambient air quality standards" means a permissible level of an air contaminant in the ambient air as defined by the maximum frequency with which a specified level may be exceeded or by a maximum level of an air contaminant in or on body or plant tissues.
- (3) "Annual average" means an arithmetic average of any 4 consecutive valid calendar quarterly averages, where calendar quarterly averages are determined as specified in (a) and (b) below; except that for hourly data at least 6,570 valid hourly averages must be contained in the 4 consecutive calendar quarters.
 - (a) For hourly data, the calendar quarterly average is the arithmetic average of all valid hourly averages collected during the quarter, except that the minimum number of valid hourly averages necessary to determine a valid quarterly average is 65% of the hourly averages contained in the quarter.
 - (b) For 24-hour data, the calendar quarterly average is the arithmetic average of all valid interval averages, except that the minimum number of valid interval averages necessary to determine a valid quarterly average is 80% of the interval averages contained in the quarter.
- (4) "Approved equivalent method" means any method of measuring concentrations of air contaminants regulated in this subchapter which has been approved as an equivalent method by the US EPA pursuant to 40 CFR Part 53, or which has been approved by the department. Methods approved by the department are kept on file and are available for inspection and copying.
- (5) "Carbon monoxide" means the gas having the molecular composition of 1 carbon atom and 1 oxygen atom.
- (6) "Department" means the department of environmental quality.
- (7) "Eight-hour average" means the arithmetic average of all valid recorded values during any consecutive 8 hours but not less than 6 valid hourly averages.
- (8) "Fluoride" means fluorine combined with 1 or more other substances.
- (9) "Forage" means any plant part which is grazed or browsed.
- (10) "Grams per square meter" (gm/m²) means a concentration numerically equal to the mass of an air contaminant (in grams) deposited on 1 square meter of surface.
- (11) "Grazing season average" means, for each sample plot,

an arithmetic average of all monthly averages for which sampling occurred in accordance with ARM 17.8.230. The minimum number of monthly averages shall be at least 3 for any sample plot.

(12) "Hourly average" means an arithmetic average of all valid values recorded between the first minute and 60th minute of the hour (e.g. 1:00 to 2:00), but not less than 2/3 of the data obtainable from the monitoring device during the hour, or an integral sample of more than 40 minutes.

(13) "Hydrogen fluoride" means the gas having the molecular composition of 1 fluorine atom and 1 hydrogen atom.

(14) "Hydrogen sulfide" means the gas having molecular composition of 1 sulfur atom and 2 hydrogen atoms.

(15) "Interval average" means the arithmetic average of all valid 24-hour averages collected during a specific scheduled sampling interval, except that the minimum number of valid 24-hour averages necessary to determine a valid interval average is 1. If a scheduled sampling interval extends into 2 calendar quarters or 2 90-day averaging periods the interval average shall be assigned to the calendar quarter or 90-day averaging period containing the start date of the interval.

(16) "Lead" means elemental lead or lead in combination with any other substance.

(17) "Micrograms per cubic meter" ($\mu\text{g}/\text{m}^3$) means a concentration numerically equal to the mass of an air contaminant present (in micrograms) in a 1 cubic meter of air, corrected to standard conditions.

(18) "Micrograms per gram" ($\mu\text{g}/\text{g}$) means a concentration numerically equal to the mass of an air contaminant (in micrograms) in 1 gram of dry material.

(19) "Monthly average" means the arithmetic average for a sample plot, taken for all applicable months in accordance with ARM 17.8.230 of all sample plot values of fluoride in or on forage samples collected. The minimum number of sample plot values must be 2. The 2 sample plot values must be separated by at least a 12-day interval. Any number of sample plot values in excess of 2 for any month must be sampled at least X days from each other, where X is the integer value described by the following equation:

$$X = (30/\text{number of sample plot values}) - 2$$

Regardless of the number of sample plot values used to calculate a monthly average, at least 1 sample plot value must lie within 12 days of the end of the month.

(20) "Ninety-day average" means the arithmetic average of all valid interval averages recorded during any 90 consecutive days except that the minimum number of valid interval averages necessary to determine a valid 90-day average is 80% of the interval averages contained in the 90 days.

(21) "Nitrogen dioxide" means the gas having the molecular composition of 1 nitrogen atom and 2 oxygen atoms.

(22) "Ozone" means the gas having the molecular composition of 3 oxygen atoms.

(23) "Particle scattering coefficient" means the fractional change in the light intensity per meter of sight path due to particulate matter.

(24) "Parts per billion" (ppb) means a concentration of an air contaminant numerically equal to the volume of a gaseous air contaminant present in 1 billion volumes of air at the same conditions of temperature and pressure.

(25) "Parts per million" (ppm) means a concentration of an air contaminant numerically equal to the volume of a gaseous air contaminant present in 1 million volumes of air at the same conditions of temperature and pressure.

(26) "Sample plot value" means the results of any chemical analysis performed on a composite of forage clippings taken from a given sample plot on a specific sampling day.

(27) "Scheduled sampling interval" means the time period commencing with the start of 1 scheduled sampling day and ending at the start of the next scheduled sampling day, where "scheduled" means a predetermined routine sampling frequency. If the sampling schedule is changed during any calendar quarter or 90-day averaging period the scheduled sampling interval shall be the largest possible time period based on any of the sampling schedules.

(28) "Standard conditions" means a temperature of 25° Celsius and a pressure of 760 millimeters of mercury.

(29) "Sulfur dioxide" means the gas having the molecular composition of 1 sulfur atom and 2 oxygen atoms.

(30) "Thirty-day average" means an arithmetic average of all recorded values during any consecutive 30 days, but not less than 20 valid 24-hour average recorded values or an integral sample of more than 20 days.

(31) "Twenty-four hour average" means an arithmetic average of each valid recorded value during any consecutive 24 hours, but not less than 18 valid hourly averages or an integral sample of more than 18 hours.

(32) "Valid recorded value" means data recorded, collected, transmitted and analyzed as required by ARM 17.8.212.

(33) "Year" means any 12 consecutive months. (History: 75-2-111, 75-2-202, MCA; IMP, 75-2-202, MCA; NEW, 1980 MAR p. 2399, Eff. 8/15/80; AMD, 1981 MAR p. 847, Eff. 8/14/81; AMD, 1986 MAR p. 2007, Eff. 12/12/86; AMD, 1988 MAR p. 826, Eff. 4/29/88; TRANS, from DHES, 1996 MAR p. 2285.)

17.8.202 INCORPORATION BY REFERENCE (1) For the purposes of this subchapter, the board hereby adopts and incorporates by reference the following:

(a) the Montana Quality Assurance Project Plan (November 1996 ed.), a department of environmental quality manual specifying sampling and data collection, recording, analysis and transmittal requirements;

(b) Quality Assurance Handbook for Air Pollution Measurement Systems, Volume I: A Field Guide to Environmental Quality Assurance, (EPA/600/R-94/038a, revised April 1994; Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II: Part 1 Ambient Air Quality Monitoring Program Quality System Development, (EPA/454/R-98-004, revised August 1998); Quality Assurance Handbook for Air Pollution Measurement Systems, Volume III: Stationary Source Specific Methods, (EPA/600/R-94/038c, revised September 1994); and Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV: Meteorological Methods, (EPA-600/R-94/038d, revised March 1995), a federal manual specifying sampling and data collection, recording, analysis and transmittal requirements;

(c) Methods of Air Sampling and Analysis, Third Edition (1989), Method No. 204, determination of fluoride content of the atmosphere and plant tissues (semi-automated method), a nationally recognized document specifying field and laboratory analytic procedures;

(d) 40 CFR Part 50, specifying the national ambient air quality standards and ambient air quality monitoring reference methods;

(e) 40 CFR Part 53, specifying ambient air monitoring reference methods and equivalent methods; and

(f) 40 CFR Part 58, including Appendices A through G, specifying criteria and requirements for ambient air quality monitoring and reporting.

(2) A copy of materials incorporated by reference in this subchapter is available for public inspection and copying at the Department of Environmental Quality, 1520 E. 6th Ave., P.O. Box 200901, Helena, MT 59620-0901.

(3) Copies of federal materials also may be obtained from:

(a) National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161; phone: (800) 553-6847 or (703) 605-6000; fax: (703) 605-6900; email: orders@ntis.gov; web: <http://www.ntis.gov>;

(b) National Service Center for Environmental Publications (NSCEP), P.O. Box 42419, Cincinnati, OH 45242-0419; phone: (800) 490-9198 or (513) 489-8190; fax: (513) 489-8695; email: ncepimail@one.net; web: <http://www.epa.gov/ncepihom>;

(c) U.S. Government Printing Office, Information Dissemination (Superintendent of Documents), P.O. Box 371954, Pittsburgh, PA 15250-7954; phone: (866) 512-1800 or (202) 512-1800; fax: (202) 512-2104; email: orders@gpo.gov; web: <http://www.gpoaccess.gov>; and

(d) the libraries of each of the 10 EPA regional offices.

(4) Copies of the CFR may be obtained from the U.S. government printing office, as described in (3)(c). (History: 75-2-111, 75-2-203, MCA; IMP, 75-2-203, MCA; NEW, 1996 MAR p. 1844, Eff. 7/4/96; TRANS, from DHES, 1996 MAR p. 2285; AMD, 1997 MAR p. 1581, Eff. 9/9/97; AMD, 1999 MAR p. 2250, Eff. 10/8/99; AMD, 2005 MAR p. 959, Eff. 6/17/05.)

Rule 17.8.203 reserved

17.8.204 AMBIENT AIR MONITORING (1) The requirements of this rule apply to any ambient air monitoring performed by the department or any other entity as required by this chapter, including any ambient air monitoring performed as a result of any condition of any permit issued under subchapters 7 or 8 regardless of the date of issuance, or any other ambient air monitoring by any entity in order to determine compliance with subchapters 2 or 8.

(2) Except as otherwise provided in this chapter, or unless written approval is obtained from the department for an exemption from a specific part of the Montana Quality Assurance Project Plan, all sampling and data collection, recording, analysis, and transmittal, including but not limited to site selection, precision and accuracy determinations, data validation procedures and criteria, preventive maintenance, equipment repairs, and equipment selection must be performed as specified in the Montana Quality Assurance Project Plan, incorporated by reference in ARM 17.8.202, except when more stringent requirements are determined by the department to be necessary pursuant to the Quality Assurance Handbook for Air Pollution Measurement Systems, or 40 CFR Part 50 including Appendices A through E, Part 53, and Part 58 also incorporated by reference in ARM 17.8.202, at which time the latter 2 documents shall be adhered to for the specific exception.

(3) Failure to comply with this rule is grounds to partially or totally invalidate the appropriate ambient air monitoring data which subsequently could result in:

(a) a violation of the conditions of a permit issued under subchapters 7 or 8; or

(b) a determination by the department that a permit application submitted under subchapters 7 or 8 is incomplete; or

(c) a determination that insufficient ambient air quality data is available to determine compliance with any ambient air quality standard contained in subchapter 2 or a prevention of significant deterioration increment contained in ARM 17.8.804.

(History: 75-2-111, MCA; IMP, 75-2-201, 75-2-202, MCA; NEW, 1986 MAR p. 2007, Eff. 12/12/86; AMD, 1989 MAR p. 2059, Eff. 12/8/89; AMD, 1992 MAR p. 144, Eff. 1/31/92; AMD, 1995 MAR p. 535, Eff. 4/14/95; AMD, 1996 MAR p. 1844, Eff. 7/4/96; TRANS, from DHES, 1996 MAR p. 2285; AMD, 1999 MAR p. 2250, Eff. 10/8/99.)

17.8.205 ENFORCEABILITY (1) Any person who violates any provision of this subchapter shall be subject to the enforcement provisions of the act. Except as otherwise provided in this subchapter, the ambient air quality standards are applicable throughout the state of Montana. (History: 75-2-111, 75-2-202, MCA; IMP, 75-2-202, MCA; NEW, 1980 MAR p. 2399, Eff. 8/15/80; TRANS, from DHES, 1996 MAR p. 2285.)

17.8.206 METHODS AND DATA (1) Except as otherwise provided in this subchapter, or unless written approval is obtained from the department for an exemption from a specific part of the Montana Quality Assurance Project Plan, all sampling and data collection, recording, analysis and transmittal, including but not limited to site selection, calibrations, precision and accuracy determinations must be performed as specified in the Montana Quality Assurance Project Plan, incorporated by reference in ARM 17.8.202, except when more stringent requirements are contained in the Quality Assurance Handbook for Air Pollution Measurement Systems or 40 CFR Part 50, Part 53, and Part 58, also incorporated by reference in ARM 17.8.202.

(2) Any valid recorded value at any 1 monitoring device which exceeds the applicable ambient air quality standard constitutes an exceedance at that monitoring location but not at any other monitoring location and permitted exceedances are applicable to each monitoring location.

(3) If a valid recorded value comprises in whole or in part an exceedance of an ambient air quality standard, the recorded value does not comprise in whole or in part a second exceedance of the same ambient air quality standard. (History: 75-2-111, 75-2-202, MCA; IMP, 75-2-202, MCA; NEW, 1980 MAR p. 2399, Eff. 8/15/80; AMD, 1986 MAR p. 2007, Eff. 12/12/86; AMD, 1989 MAR p. 2059, Eff. 12/8/89; AMD, 1992 MAR p. 144, Eff. 1/31/92; AMD, 1996 MAR, p. 1844, Eff. 7/4/96; TRANS, from DHES, 1996 MAR p. 2285; AMD, 1999 MAR p. 2250, Eff. 10/8/99.)

Rules 17.8.207 through 17.8.209 reserved

17.8.210 AMBIENT AIR QUALITY STANDARDS FOR SULFUR DIOXIDE

(1) No person shall cause or contribute to concentrations of sulfur dioxide in the ambient air which exceed any of the following standards:

(a) hourly average: 0.50 ppm, 1-hour average, not to be exceeded more than 18 times in any 12 consecutive months;

(b) twenty-four hour average: 0.10 ppm, 24-hour average, not to be exceeded more than once per year;

(c) annual average: 0.02 ppm, annual average, not to be exceeded.

(2) For determining compliance with this rule, sulfur dioxide shall be measured by the pararosaniline method as more fully described in 40 CFR Part 50, Appendix A, incorporated by reference in ARM 17.8.202, or by an approved equivalent method.

(History: 75-2-111, 75-2-202, MCA; IMP, 75-2-202, MCA; NEW, 1980 MAR p. 2399, Eff. 8/15/80; AMD, 1987 MAR p. 1482, Eff. 8/28/87; AMD, 1996 MAR p. 1844, Eff. 7/4/96; TRANS, from DHES, 1996 MAR p. 2285; AMD, 1997 MAR p. 1582, Eff. 9/9/97.)

17.8.211 AMBIENT AIR QUALITY STANDARDS FOR NITROGEN DIOXIDE

(1) No person shall cause or contribute to concentrations of nitrogen dioxide in the ambient air which exceed any of the following standards:

(a) hourly average: 0.30 ppm, 1-hour average, not to be exceeded more than once per year;

(b) annual average: 0.05 ppm, annual average, not to be exceeded.

(2) For determining compliance with this rule, nitrogen dioxide shall be measured by the chemiluminescence method, as more fully described in 40 CFR Part 50, Appendix F, incorporated by reference in ARM 17.8.202, or by an approved equivalent method. (History: 75-2-111, 75-2-202, MCA; IMP, 75-2-202, MCA; NEW, 1980 MAR p. 2399, Eff. 8/15/80; AMD, 1996 MAR p. 1844, Eff. 7/4/96; TRANS, from DHES, 1996 MAR p. 2285.)

17.8.212 AMBIENT AIR QUALITY STANDARDS FOR CARBON MONOXIDE

(1) No person shall cause or contribute to concentrations of carbon monoxide in the ambient air which exceed any of the following standards:

(a) Hourly average: 23 ppm, hourly average, not to be exceeded more than once per year.

(b) Eight-hour average: 9 ppm, 8-hour average, not to be exceeded more than once per year.

(2) Measurement method: For determining compliance with this rule, carbon monoxide shall be measured by the non-dispersive infrared method, as more fully described in 40 CFR Part 50, Appendix C (1979), or by an approved equivalent method. (History: 75-2-111, 75-2-202, MCA; IMP, 75-2-202, MCA; NEW, 1980 MAR p. 2399, Eff. 8/15/80; TRANS, from DHES, 1996 MAR p. 2285.)

17.8.213 AMBIENT AIR QUALITY STANDARD FOR OZONE (1) No

person shall cause or contribute to concentrations of ozone in the ambient air which exceed the following standard:

(a) hourly average: 0.10 ppm 1-hour average, not to be exceeded more than once per year.

(2) For determining compliance with this rule, ozone shall be measured by the chemiluminescence method, as more fully described in 40 CFR Part 50, Appendix D, incorporated by reference in ARM 17.8.202, or by an approved equivalent method. (History: 75-2-111, 75-2-202, MCA; IMP, 75-2-202, MCA; NEW, 1980 MAR p. 2399, Eff. 8/15/80; AMD, 1996 MAR p. 1844, Eff. 7/4/96; TRANS, from DHES, 1996 MAR p. 2285.)

17.8.214 AMBIENT AIR QUALITY STANDARD FOR HYDROGEN SULFIDE

(1) No person shall cause or contribute to concentrations of hydrogen sulfide in the ambient air which exceed the following standard:

(a) hourly average: 0.05 ppm, 1-hour average, not to be exceeded more than once per year.

(2) Measurement method: For determining compliance with this rule, hydrogen sulfide shall be measured by the methylene blue spectrophotometric method, as more fully described in "Methods of Air Sampling and Analysis, Second Edition" (1977) Method P and CAM 126-6, or by an approved equivalent method. (History: 75-2-111, 75-2-202, MCA; IMP, 75-2-202, MCA; NEW, 1980 MAR p. 2399, Eff. 8/15/80; TRANS, from DHES, 1996 MAR p. 2285.)

Rules 17.8.215 through 17.8.219 reserved

17.8.220 AMBIENT AIR QUALITY STANDARD FOR SETTLED PARTICULATE MATTER (1) No person shall cause or contribute to concentrations of particulate matter in the ambient air such that the mass of settled particulate matter exceeds the following standard:

(a) thirty-day average: 10 gm/m², 30-day average, not to be exceeded.

(2) Measurement method: For determining compliance with this rule, settled particulate matter shall be measured by the dust fall method, as more fully described in "Methods of Air Sampling and Analysis, Second Edition" (1977), Method No. 21101-0170T, or by an approved equivalent method. (History: 75-2-111, 75-2-202, MCA; IMP, 75-2-202, MCA; NEW, 1980 MAR p. 2399, Eff. 8/15/80; TRANS, from DHES, 1996 MAR p. 2285.)

17.8.221 AMBIENT AIR QUALITY STANDARD FOR VISIBILITY

(1) No person shall cause or contribute to concentrations of particulate matter such that the scattering coefficient of particulate matter in the ambient air exceeds the following standard:

(a) annual average: 3×10^{-5} per meter, annual average, not to be exceeded.

(2) The provisions of (1) of this rule are applicable only in Class I areas as are designated under the Montana Clean Air Act rules, Prevention of Significant Deterioration of Air Quality, (ARM Title 17, chapter 8, subchapter 8) on the effective date of this rule. Areas redesignated Class I subsequent to the effective date of this rule shall be subject to the provisions of (1) of this rule only upon a finding by the board that visibility is an important attribute of such area.

(3) Measurement method: For determining compliance with this rule, visibility shall be measured by the integrating nephelometer method, as more fully described in "Methods of Air Sampling and Analysis, Second Edition" (1977) Method No. 11203-03-76T, as modified by the addition of a heated sample inlet line and green spectral sensitivity; or by an approved equivalent method. (History: 75-2-111, 75-2-202, MCA; IMP, 75-2-202, MCA; NEW, 1980 MAR p. 2399, Eff. 8/15/80; TRANS, from DHES, 1996 MAR p. 2285.)

17.8.222 AMBIENT AIR QUALITY STANDARD FOR LEAD (1) No person shall cause or contribute to concentrations of lead in the ambient air which exceed the following standard:

(a) ninety-day average: $1.5 \mu\text{g}/\text{m}^3$ of air, 90-day average, not to be exceeded.

(2) For determining compliance with this rule, lead shall be measured by the high-volume method as more fully described in 40 CFR Part 50, Appendix B, and by the atomic absorption method as more fully described in 40 CFR Part 50, Appendix G, both incorporated by reference in ARM 17.8.202, or by an approved equivalent method. (History: 75-2-111, 75-2-202, MCA; IMP, 75-2-202, MCA; NEW, 1980 MAR p. 2399, Eff. 8/15/80; AMD, 1988 MAR p. 826, Eff. 4/29/88; AMD, 1996 MAR p. 1844, Eff. 7/4/96; TRANS, from DHES, 1996 MAR p. 2285.)

17.8.223 AMBIENT AIR QUALITY STANDARD FOR PM-10 (1) No person may cause or contribute to concentrations of PM-10 in the ambient air which exceed the following standards:

(a) Twenty-four hour average: $150 \mu\text{g}/\text{m}^3$ of air, 24-hour average, with no more than 1 expected exceedance per calendar year.

(b) Annual average: $50 \mu\text{g}/\text{m}^3$ of air, expected annual average, not to be exceeded.

(2) For the purposes of this rule, expected exceedance and expected annual average shall be determined in accordance with 40 CFR Part 50, Appendix K, incorporated by reference in ARM 17.8.202.

(3) For determining compliance with this rule, PM-10 shall be measured by an applicable reference method based on 40 CFR Part 50, Appendix J, and designated in accordance with 40 CFR Part 53 or by an equivalent method designated in accordance with 40 CFR Part 53, all incorporated by reference in ARM 17.8.202. (History: 75-2-111, 75-2-202, MCA; IMP, 75-2-202, MCA; NEW, 1980 MAR p. 2399, Eff. 8/15/80; AMD, 1988 MAR p. 826, Eff. 4/29/88; AMD, 1996 MAR p. 1844, Eff. 7/4/96; TRANS, from DHES, 1996 MAR p. 2285.)

Rules 17.8.224 through 17.8.229 reserved

17.8.230 FLUORIDE IN FORAGE (1) No person may cause or contribute to concentrations of fluoride in or on forage which exceed the following standards:

- (a) Monthly average: 50 µg/g.
- (b) Grazing season average: 35 µg/g.
- (2) The following sampling protocol must be applied:

- (a) A sample plot must be located on an area which has forage being grazed by domestic livestock, or an area upon which forage is grown for use or commercial sale as a livestock feed. A sample plot must be located on a US geological survey map, or on an aerial photograph, for consistency of resampling. A written description of the plot location is acceptable, in the alternative, if the area can be verbally defined to the satisfaction of the department. Plot descriptions must be filed with the department on standard site identification forms provided by the department. The location of sample plots must be approved by the department.

- (b) The sample plot must be a minimum of 1 acre in area. At locations where forage growth is sparse, the sample plot must be large enough to allow a sampling capability, which meets the provisions of sample number and size, as described in this protocol under (e) below. Location of the plot must be chosen according to the predicted location of maximum fluoride impact. This location must be determined through modeling, historical monitoring data or other scientifically supportable procedures acceptable to the department. In the event that the predicted location of maximum concentration lies in an area unsuitable for sampling, another nearby plot suitable for sampling must be chosen. Locations where grasses are less than 3 cm in height or locations less than 100 meters from dirt roads or at locations less than 30 meters from paved roads must not be sampled.

- (c) Sampling of each plot must be performed at least twice per month. The sampling schedule, if twice per month, must provide a minimum of 12 days between sampling periods. Should additional sampling be conducted, sampling intervals must be spaced in accordance with the definition of monthly average to represent the entire monthly forage fluoride uptake. Grazing season sampling must commence and terminate on the appropriate month following the constraints in (a) above and (f) below.

- (d) Samples must be collected through the sample period by alternately using S, U, W, S, U, W, etc., shaped transects, which traverse the full sample plot. Samples must be collected at regularly spaced distances as one progresses along the transect. Regardless of the plot size, a minimum of 25 clippings per plot must be collected. Clippings collected at each plot must be placed into a single composite sample. Samples must not be washed or in any way treated to remove particulate material from the plant.

- (e) Approximately equal-sized clippings of at least 10

grams each must be cut from the forage in a given sample plot. The entire aerial portion above 3-cm of the base of the plant must be collected, unless the splashline is clearly above the 3-cm mark, in which case the vegetation must be cut slightly above the splashline. The clipping must include old and new leaves. Entire leaves must be collected and analyzed rather than only leaf tips or edges. An attempt must be made whenever possible to obtain plant tissue that is free of dew or other moisture.

(f) Only forage grasses must be sampled and only on sample plots on which livestock are actively grazing or sample plots on which forage is grown for use or commercial sale as livestock feed. In order to determine compliance with this rule, forage sampling must occur during months for which any livestock can obtain its minimum nutritional requirements by grazing the land. Sampling may not take place on forage grown for use or commercial sale as a livestock feed unless the sampling takes place during a month in which the forage is growing and the growth is expected to be harvested for use in livestock feeding.

(g) Plant tissue must be stored in the laboratory in labeled and ventilated kraft bags, or other acceptable containers, at temperatures of 2°-8°C. The sample tissue must be air dried at a temperature of 80°C (±5°C) for 24 to 48 hours prior to grinding. The tissue shall be milled to pass a 40-mesh sieve.

(h) The composite sample must be thoroughly mixed prior to any chemical analysis. Replicate aliquots are to be taken using a sample splitter or any other unbiased technique, and analyzed chemically for fluoride using the semi-automated method, as more fully described in Methods of Air Sampling and Analysis, incorporated by reference in ARM 17.8.202, except that the surfaces of the plant material must not be washed, or by an approved equivalent method.

(i) A 5-gram replicate aliquot from each plot must be forwarded to the department for quality control purposes. Another aliquot of the collected plant material must be saved for a minimum of 3 years in labeled air-tight plastic containers in the event additional analyses are required. (History: 75-2-111, 75-2-202, MCA; IMP, 75-2-202, MCA; NEW, 1980 MAR p. 2399, Eff. 8/15/80; AMD, 1981 MAR p. 850, Eff. 8/14/81; AMD, 1996 MAR p. 1844, Eff. 7/4/96; TRANS, from DHES, 1996 MAR p. 2285.)

